were May, July and August. The average velocity at 7 A. M, was 14.48 miles; at 2 P. M., 17.51 miles; at 9 P. M., 15 46 miles.

BAROMETER.

Mean height of barometer column, 29.103 inches; at 7 A M., 29.125 inches; at 2 P. M., 29.081 inches; at 9 P. M., 29.104 inches. Maximum, 29.722 inches, on January 26th; minimum, 28.305 inches, on March 11th; yearly range, 1.417 inches. The highest monthly mean was 29.255 inches, in January; the lowest was 28.769 inches, in June. The barometer observations are corrected for temperature and instrumental error.

RELATIVE HUMIDITY.

The average atmospheric humidity for the year was 70.12; at 7 A. M., 80.14; at 2 P. M., 53.36; at 9 P. M, 76.88. The dampest month was February, with mean humidity 79.8; the driest month was September, with mean humidity 60.76. There were eleven fogs during the year. The least humidity for any single observation was 16.1, at 2 P. M. on the 24th of September—less than one-sixth of saturation.

The following table gives the mean temperature, the extremes of temperature, the velocity of the wind, the percentage of cloudiness, the relative humidity, the rainfall (including melted snow), and the depth of snow, for each month of the year 1881.

1880.	*Mean temperature.*	*Max. temperature.*	*Min. temperature.*	*Miles of wind.*	*Relative humidity.*	*Rain, inches.*	*Snow, inches.*	*Mean cloudiness.*
January	21.60	53.0	*-8.0	12,192	75.90	0.34	0.5	58.60
February	25.78	61.5	-5.5	12,142	79.80	4.60	22.0	54.17
March	37.47	77.0	14.0	16,231	70.30	1.66	8.0	45.79
April	52.47	84.0	13.0	14,495	67.60	1.27	.....	51.78
May	69.86	88.5	48.0	8,868	72.47	3.51	.....	64.08
June	77.25	97.0	62.5	11,474	70.10	4.52	.....	31.89
July	79.74	102.0	57.5	7,541	72.50	2.28	.....	26.23
August	81.23	104.0	62.0	7,991	62.50	1.57	.....	31.29
September	70.59	99.0	42.5	11,722	60.76	5.72	.....	43.89
October	59.27	91.0	39.5	12,189	74.25	4.35	.....	61.72
November	40.40	71.5	11.0	13,906	66.99	2.55	1.0	45.55
December	40.10	63.0	18.0	12,679	68.30	0.90	1.0	55.26
Mean	54.65	82.6	31.1	11,786	70.12	2.77	2.7	47.52

*The minus sign denotes temperature below zero.

NOTES ON KANSAS MINERALS.

BY ERASMUS HAWORTH, EMPIRE CITY, KANSAS.

The following minerals, *new to Kansas*, have been found in Cherokee county:

1. Native sulphur. 2. Chalcopyrite (copper pyrites). 3. Greenockite (cadmium sulphide). 4. Anglesite (lead sulphate).

1. Native sulphur occurs at Weir City, and in other coal-mining districts. The "dumps" at the coal shafts take fire spontaneously, and the heat decomposes a portion of the iron pyrites, the sulphur from which is votilized, and

condenses at or near the surface of the dump-pile. Needle-shaped crystals, fully $\frac{2}{3}$ c. m. in length, have been seen.

2. Chalcopyrite (copper pyrites) occurs in perfect tetrahedral crystals, which are generally — though not always — adhering to zinc blende. They vary in size from 1 mm. to $\frac{2}{3}$ cm. in thickness. It is quite common in three or four shafts in the Short Creek lead mines, and a few specimens of it have been obtained from Joplin, Missouri, although its occurrence at Joplin is not mentioned by Prof. Leonhard in his "Notes on the Minerals of Missouri."

3. Greenockite (cadmium sulphide) has been found in a number of different shafts in the Short Creek mines, occurring as a yellow, or yellowish green, incrustation It gives to some brilliant sphalerite crystals a most beautiful appearance. No crystals have yet been found.

4. Anglesite (lead sulphate) is found adhering to galena. (*Rare.*)

PROTOZOAN REMAINS IN KANSAS CHALK.

BY PROF. G. E. PATRICK, OF THE STATE UNIVERSITY.

At the meeting of the Academy in 1875, I presented a paper upon "Kansas Chalk," then a recent discovery, and then first brought before the scientific world as the only known chalk in North America.

In that paper, after speaking of the chalk chemically and industrially, I stated that, with the highest microscopic power at my disposal, I had been unable to detect organic remains; and being of opinion that said power was sufficiently high for the purpose, favored the theory of chemical precipitation in accounting for the formation of this chalk. It has turned out, however, that a higher magnifying power alone was needed to render visible forms of undoubted organic origin. This was shown during last year (1882) by Mr. W. S. Bunn, a student at the University, and the possessor of a good microscope with an objective of much higher power than that previously used by myself.

Mr. Bunn made out two forms, one circular, the other rod-like, and *thought* he detected dark spots on some of the circular ones. He intended making further observations with a higher power than he then possessed; but being called away from the University, and having been since engaged in pursuits of a quite different character, he has given the subject no further attention, except to request me to report his observations to the Academy, together with any others that I might be able to make.

My own facilities for observation are no better now than when I originally examined the chalk; but through the kindness of Prof. E. A. Popenoe, I have had the use of an immersion lens of $\frac{1}{16}$-inch focal length, by means of which a few details were rendered visible which it may be worth while to describe here:

The circular forms (disks) observed by Mr. Bunn were found not all to